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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/881,095 | 06/15/2001 | Koichi Kimura | 1015U-488 | 7281 |

466 7590 10/31/2003

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| EXAMINER |
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AKKAPEDDI, PRASAD R

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2871

DATE MAILED: 10/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/881,095 | KIMURA, KOICHI | |
| | Examiner | Art Unit | |
| | Prasad R Akkapeddi | 2871 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 7, 12-15 and 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>091701</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-6, 8-11 and 16-17 in Paper No. 10/08/2003 is acknowledged.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 8-11 and 16-17 rejected under 35 U.S.C. 102(e) as being anticipated by Hikmet et al. (Hikmet) (U.S. Patent No. 6,307,604).

As to claim 1: Hikmet discloses an optical element (Fig. 4a)), having a fluorescence luminous element (8) operative to emit fluorescent light when excited by excitation light (1,2) and an optical filter (10) comprising a cholesteric

layer formed over the fluorescence luminous element (8) at a side of the fluorescence luminous element at which the excitation light enters the fluorescence luminous element so as to transmit at least partly the excitation light and to reflect at least partly the fluorescent light traveling to the optical filter (Fig.3) and (col. 1, lines 40-48).

As to claims 2-4: Hikmet also discloses the optical filter comprises a cholesteric layer having a right handed spiral structure (dextrorotatory) and a cholesteric layer having a left handed spiral structure (laevorotatory) (col. 2, lines 66-67) as recited in claim 2, a half wave plate (6) and a plurality of cholesteric layers (three-layer filter) (col.4, line 17) as recited in claim 3, and the reflecting wavelengths are red, green and blue, as recited in instant claim 3.

As to claims 8-11: Hikmet discloses a light source (1,2) to emit excitation light, an optical element (Fig. 4a), a fluorescent luminous element (8), an optical filter (10) comprising a cholesteric layer (col. 4, line 57) as recited in claims 8 and 10, a light modulating element (LCD, 7) as recited in claim 10, and a cathodoluminescence lamp comprising a cathode (1), a grid (2), hence an electron-ray radiating element as recited in instant claims 9 and 11.

As to claims 16-17: Hikmet discloses an optical display device (Fig. 3) having an excitation light source (1), an optical element with a fluorescent luminous element (8), an optical filter (5), a light modulating element (7) and a cathodoluminescence lamp comprising a cathode (1), a grid (2), hence an electron-ray radiating element.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikmet in view of Frame (U.S. Patent No. 4,274,028).

Although Hikmet discloses an excitation source (1,2) to excite the luminescent layer (3), to produce red, green and blue light, but does not disclose that the output of the source is an ultraviolet light, which in turn excites the fluorescent layer (3).

Frame on the other hand, discloses a novel scheme of generating ultraviolet light from a cathodoluminescent layer in an electron-ray radiating element. (Note: Since this is an ultraviolet generating source, the specific application of this light to optical display devices would have been obvious to one having ordinary skill in the art at the time the invention was made).

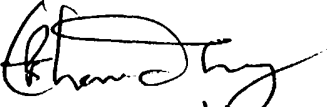
Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the ultra-violet source from a cathodoluminescence device to the display device of Hikmet in order to provide a high-intensity ultraviolet flooding beam and to reduce tremendous energy waste (col. 1, lines 8-15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

Prasad R Akkapeddi
Examiner
Art Unit 2871


T. Chandray
Primary Examiner